

REMARKS / ARGUMENTS

Claims 1, 7 and 12 have been amended. The amendment is based on the last paragraph on page 11 and the last paragraph on page 12 of the original specification and the original claims 3 and 9. No new matter has been added.

Claims 1-26 remain pending upon entry of the present amendment. Reconsideration and allowance are respectfully requested.

Claim Rejections - 35 U.S.C. §103

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoppenstein (US 2004/0204109 A1) in view of Lipka (US 2006/0040624 A1), and in further view of Takeuchi (US 2002/0177468 A1). The rejection is respectfully traversed based on the above amendment of claims.

Claim 1:

Amended claim 1 of the present application recites:

“...when transmitting forward signals on a common channel, different beams are reflected to the sectors of the at least one base band chip to have different time delays in the base band system so that they are not coherent with one another even when different beams carry same information.”

The Office Action concedes that Hoppenstein in view of Lipka does not teach when transmitting forward signals on a common channel, different beams are reflected to the sectors of the at least one base band chip to have different time delays in the base band system so that they are not coherent with one another even when different beams carry same information. The Office Action asserts that Takeuchi teaches these features.

However, Applicants respectfully submit that the features “when transmitting forward signals **on a common channel**, different beams are reflected to the sectors of the at least one base band chip to have different time delays in the base band system so that they are not coherent with one another even when different beams carry same information” in the amended claim 1 of the present application is not taught by

Takeuchi.

With reference to Takeuchi, Takeuchi discloses a multi-beam cellular base station for sending a spread spectrum signal to at least one mobile station, the base station comprising: first antenna for sending a common channel by a common beam that a directional pattern is formed previously; second antenna for sending a dedicated channel by a dedicated beam that a directional pattern is formed for each mobile station; and switching unit for switching a sending time section of the common beam and a sending time section of the dedicated beam so that the sending time sections do not overlap within a time slot, the common beam and the dedicated beam are sent by same frequency (see, e.g., paragraphs [0008] and [0039] of Takeuchi). It can be seen that in Takeuchi, sending time section for a common channel and sending time section for a dedicated channel are switched so that they do not overlap within a time slot, and such switching operation is performed because the common beam and the dedicated beam are sent by same frequency. In other words, **time delays exist between the common channel and the dedicated channel in Takeuchi because the common beam and the dedicated beam are sent by same frequency**. While on a particular channel, such as the dedicated channel, **different beams do not have time delays, but are sent simultaneously** (see, e.g., figures 2 and 3 of Takeuchi).

To the contrary, as recited in claim 1 of the present invention, different beams for transmitting forward signals on a common channel have different time delays in the base band system so that they are not coherent with one another even when different beams carry same information. Hence **time delays exist among different beams on the common channel in the present invention for avoiding coherence when different beams carry same information**. Thus both the application scenario and reason for the time delays in Takeuchi and in the present invention are essentially different.

Therefore, the scheme disclosed in Takeuchi is completely different from claim 1 of the present invention. Takeuchi does not teach the features "when transmitting forward signals on a common channel, different beams are reflected to the sectors of the at

least one base band chip to have different time delays in the base band system so that they are not coherent with one another even when different beams carry same information” in claim 1 of the present application.

By the features “when transmitting forward signals on a common channel, different beams are reflected to the sectors of the at least one base band chip to have different time delays in the base band system so that they are not coherent with one another even when different beams carry same information”, claim 1 of the present invention solves the problem that the fixed beams in some area correlate with and counteract one another or are greatly reduced due to the correlating addition of the space vectors of each fixed beam when the multiple antenna CDMA system transmits the common channels, and makes the strength of the pilot channel and the traffic channel in corresponding proportion in the coverage area. And compared with the prior art, claim 1 of the present invention simplifies the equipment, algorithm and design of the correction schemes, and improves the signal to noise ratio of receiving signals by the mobile station (see, e.g., second paragraph on page 10 of the specification).

In view of the above, Hoppenstein, Lipka and Takeuchi, either individually or in combination, does not teach the technical scheme of claim 1. Therefore, the subject matter of claim 1 would have been **non-obvious** at the time the invention was made to a person having ordinary skill in the art. Accordingly, claim 1 conforms to the provisions of 35 U.S.C. 103.

As such, Applicants respectfully submit that claim 1 is in condition for allowance.

Claims 2-6 and 19-22:

Claims 2-6 and 19-22 are dependent on claim 1 directly or indirectly, and are thus allowable for at least the same reasons as claim 1.

Claim 7:

Amended claim 7 of the present application defines a device for realizing beam-forming in CDMA system, and recites, among other features, "when transmitting forward signals on a common channel, different beams are reflected to the sectors of the at least one base band chip to have different time delays in the base band system so that they are not coherent with one another even when the different beams carry same information".

For similar reasons as those stated above for claim 1, Applicants respectfully submit that claim 7 of the present application also conforms to the provisions of 35 U.S.C. 103.

As such, Applicants respectfully submit that claim 7 is in condition for allowance.

Claims 8-11 and 23-25:

Claims 8-11 and 23-25 depend on claim 7 directly or indirectly, and are thus allowable for at least the same reasons as claim 7.

Claim 12:

Claim 12 of the present application defines a method for realizing beam-forming in CDMA system, and recites, among other features, "step one: in a base band, reflecting base band signals of each fixed beam to sectors of base band chips; step two: making the base band signals of the fixed beams reflected to corresponding sectors of the base band chips have different time delays when transmitting forward signals on a common channel".

For similar reasons as those stated above for claim 1, Applicants respectfully submit that claim 12 of the present application also conforms to the provisions of 35 U.S.C. 103.

As such, the applicants respectfully submit that claim 12 is in condition for allowance.

Application No. 10/580,165
Amdt. dated 25 May 2011
Reply to Office Action of 9 March 2011

Claims 13-18 and 26

Claims 13-18 and 26 depend on claim 12 directly or indirectly, and are thus allowable for at least the same reasons as claim 12.

Conclusion

The Applicants believe they have responded to each matter raised by the Examiner. Allowance of the claims is respectfully solicited. It is believed that the present patent application, after the above amendments and statement of opinions, has overcome all the defects pointed out by the Examiner and is in conformity with the relevant provisions, so it should be granted patent rights. The Applicants expect early granting of patent right for this application. If there is still a problem that the Examiner believes is not overcome by the above amendments and statement of opinions, please give the Applicants another chance to make amendments and further clarification or explanation or observation.

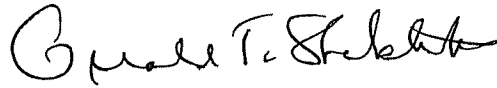
Applicant hereby requests reconsideration and reexamination thereof.

No further fee or petition is believed to be necessary. However, should any further fee be needed, please charge our Deposit Account No. 23-0920, and deem this paper to be the required petition.

With the above amendments and remarks, this application is considered ready for allowance and applicant earnestly solicits an early notice of same. Should the Examiner be of the opinion that a telephone conference would expedite prosecution of the subject application, he is respectfully requested to call the undersigned at the below listed number.

Application No. 10/580,165
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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Gerald T. Shekleton". The signature is fluid and cursive, with the first name "Gerald" being more prominent.

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